

Date: 12.08.2014
Version: 1 (Canada)
Former date: 31.08.2012

MYCOSTOP

**SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY****1.1 Product identifier**

Trade name	MYCOSTOP
Product type	Wettable powder (WP)
REACH Registration number	Not applicable to biological products.

1.2 Relevant identified uses of the mixture and uses advised against

The uses of the mixture	Mycostop biofungicide is used for the suppression of damping-off, root and crown rot, and wilt caused by <i>Fusarium</i> , <i>Pythium</i> and <i>Phytophthora</i> on greenhouse ornamentals and vegetables such as cucumber, tomato and pepper. Professional use only.
--------------------------------	--

1.3 Details of the supplier of the Safety Data Sheet

Supplier	VERDERA OY / Lallemand Plant Care
Street address	Kurjenkellontie 5 B
Postcode and post office	FI-02270 ESPOO, Finland.
Post-office box	P.O.BOX 5
Postcode and post office	FI-02271 ESPOO, Finland.
Telephone number	+358 10 217 3700
Telefax	+358 10 217 3711
E-mail address	infoverdera@lallemand.com

1.4 Emergency telephone number

In Canada: For poisoning emergency contact your provincial poison centre. If the victim is unconscious, not breathing or having a seizure, call 911.

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the mixture**

In Canada: Product is not classified according to Pest Control Products Act as hazardous and does not contain any substances that are classified as hazardous or dangerous.

Trade name: MYCOSTOP
Date: 11.08.2014
Version: 1 (Canada)

2.2 Label elements / Precaution statements

In Canada: Potential Sensitizer.
Keep out of reach of children.
Keep away from food, drink and animal feed.
May cause sensitization by inhalation and skin contact.
Avoid breathing dust or spray mist.
Avoid contact with skin and eyes.

Wear a long sleeved shirt, long pants, shoes plus socks, chemical resistant gloves, eye goggles and a dust mask (minimum standard MSHA/NIOSH TC-21C) when handling this product and during all clean up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Toxic to aquatic organisms.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

2.3 Other supplemental hazard information

"Mycostop contains *Streptomyces* K61. Micro-organisms may have the potential to provoke sensitising reactions."

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Composition according to CLP (EC) 1272/2008:

Substance name	CAS-, EC- or index number	REACH Registration No.	Concentration	Classification - pictograms - H-statements - category
Dried spores and mycelium of <i>Streptomyces</i> strain K61	n/a	n/a	$1 \cdot 10^8$ cfu/g ⁽¹⁾ of the product (minimum)	None

(1) See Section 16 "Abbreviations and acronymes".

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

If swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.

Trade name: MYCOSTOP
Date: 11.08.2014
Version: 1 (Canada)

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
If on Skin or Clothing: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes.

Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

4.2 Most important symptoms and effects, both acute and delayed

May cause sensitization by inhalation and skin contact.

4.3 Indication of any immediate medical attention and special treatment needed

See section 4.1 for further information.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Adequate media: All common extinguishing media, eg. water and extinguishing foam.
Unsuitable media: None/unknown.

5.2 Special hazards arising from the substance or mixture

None.

5.3 Advice for firefighters

Wear fire/flame resistant clothing. Wear respiratory protection (self contained breathing apparatus).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Applicators and other handlers must wear: long sleeved shirt, long pants, shoes plus socks, chemical resistant gloves, eye goggles and a dust mask (minimum standard MSHA/NIOSH TC-21C) when handling this product and during all clean up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

6.2 Environmental precautions

Avoid release to the environment. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters. For guidance contact the Provincial Regulatory Agency.

6.3 Methods and material for containment and cleaning up

Do not contaminate water, food or feed by storage or disposal. Dispose of contents and container: in accordance with local and national regulations. See Section 13 for further information on national waste management.

6.4 Reference to other sections

For further information regarding personal protection and waste management see Section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid breathing dust or spray mist. Avoid contact with skin and eyes.

Applicators and other handlers must wear: long sleeved shirt, long pants, shoes plus socks, chemical resistant gloves, eye goggles and a dust mask (minimum standard MSHA/NIOSH TC-21C) when handling this product and during all clean up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of reach of children. Mycostop consists of living microbes packed in moisture and air proof unit packages. Store the product in unopened packets in a cool (below +8°C), dry place. Use all contents in packet during the same day. In an opened packet the product will lose its viability. Unopened packets stored below +8°C have a viable shelf life of 12 months from the packaging date (see expiry date). To prevent contamination, store this product away from food or feed.

7.3 Specific end use(s)

Identified end uses indicated in section 1. Information of this section 7 should be taken into account.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

National occupational exposure limit values :	None.
Other limit values :	None.
DNEL :	None.
PNEC :	None.

8.2 Exposure controls

Appropriate engineering No exposure to the product is to be expected during normal handling

Trade name: MYCOSTOP
 Date: 11.08.2014
 Version: 1 (Canada)

controls: when recommended and appropriate protective equipments are used. Avoid exposure.

Eye / face protection: Goggles / face shield.

Skin protection: Protective clothing (protective suit, rubber boots, hat).

Hand protection: Rubber or plastic gloves (e.g. nitrile gloves).

Respiratory protection: Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C minimum).

Thermal hazards: None.

Environmental exposure controls: Active microbe is a natural and generally occurring bacteria. No exposure limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellowish powder.
Odour	Odour of soil.
Odour threshold	None.
pH	Approx. 7.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	Approx. 200 kg/cu.m.
Solubility(ies)	Insoluble.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.

9.1 Other information

No further information.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Product is stable under normal conditions of use, storage and transportation.
Chemical stability:	Product is stable under normal conditions of use, storage and transportation.
Possibility of hazardous reactions:	Product is stable and hazardous reactions do not occur under recommended conditions of use, storage and transportation.
Conditions to avoid:	Avoid high temperatures (>30°C), UV-light and irradiation.
Incompatible materials:	Acids, bases, concentrated fertilizer liquids, chemical pesticides, food, drink and animal feeding stuffs.
Hazardous decomposition products:	Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	No toxicity, infectivity or pathogenicity.
Oral:	LD ₅₀ (oral, rat) > 5 g/kg. Not toxic, infective or pathogenic to rat.
Dermal/skin contact:	LD ₅₀ (dermal, rat) > 5 g/kg. Not toxic, infective or pathogenic to rat.
Inhalation:	Not toxic or pathogenic to rat.
Intraperitoneal:	Not toxic or pathogenic to rat.
Skin corrosion/irritation	No skin irritation.
Serious eye damage/irritation	None. Mild eye irritation (reversible within 2 days).
Respiratory or skin sensitisation	May have the potential to provoke sensitising reactions.
Germ cell mutagenicity	No data available. No recognised mutagenicity.
Carcinogenicity	No data available. No recognised carcinogenicity.
Reproductive toxicity	No data available.
STOT-single exposure	No data available.
STOT-repeated exposure	No data available.
Aspiration hazard	No data available.
Other information	No further information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The product and its components are not classified as ecologically toxic. *Streptomyces* is a natural and generally occurring soil bacteria.

Not toxic or pathogenic to fish, (no-observed-effect level (NOEL) = $5 \cdot 10^4$ cfu/ml, Rainbow trout).
Not toxic or pathogenic to daphnia, (no-observed-effect level (NOEL) = $1 \cdot 10^4$ cfu/ml, Daphnia magna).
Not toxic or pathogenic to bird, (LD₅₀ > 2500 mg/kg Bobwhite quail, Mallard duck).

Trade name: MYCOSTOP
Date: 11.08.2014
Version: 1 (Canada)

Not toxic or pathogenic to honeybee (LD₅₀ > 2400 ppm).
Not toxic or pathogenic to earthworm (LC₅₀ > 1000 ppm).

12.2 Persistence and degradability

Degradability expected to be easy, as for other naturally occurring soil microbes.

12.3 Bioaccumulative potential

No expected bioaccumulative potential.

12.4 Mobility in soil

Streptomyces ray bacterium is a natural inhabitant in soil.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

No other known adverse effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of contents and container: in accordance with local and national regulations.

In Canada: Do not contaminate water, food or feed by storage or disposal.

1. Thoroughly empty the contents of the container into the application device.
2. Make the container unsuitable for further use.
3. Dispose of container in accordance with provincial requirements
4. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

SECTION 14: TRANSPORT INFORMATION

Product is not classified as dangerous goods according to international transportation regulations in force ADR, RID, ADN, IATA and AMDG.

Environmental hazards None.

Special precautions for user None.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Product is not intended for bulk transport.

Trade name: MYCOSTOP
Date: 11.08.2014
Version: 1 (Canada)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Safety Data Sheet and Classification in accordance with PMRA biopesticide approval of Mycostop (Reg. No.: 26265, Pest Control Products Act).

15.2 Chemical safety assessment

Chemical safety assessment of the product and results thereof presented in Section 7 and 8 of this Safety Data Sheet.

Chemical safety assessment related to plant protection products done by PMRA. Mycostop is authorized as a biopesticide in Canada (Reg. No.: 26265, Pest Control Products Act).

SECTION 16: OTHER INFORMATION

Indication of changes

Version 1: Safety Data Sheet prepared in accordance with the classification and labelling requirements disclosed by PMRA in product authorization. The general design and content of Safety Data Sheet is prepared also to comply and/or to be in line with the current European SDS requirements for mixtures: CLP Regulation (EC) 1272/2008, Regulation (EU) 453/2010, Directive 1999/45/EC.

Abbreviations and acronyms

Cfu/g Colony forming units per grams.

Key literature references and sources for data

Regulations, Directives, Acts, databases, literature and own studies.

Used method in evaluating classification

The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification, since the conditions of the operations mentioned are beyond our control. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text. Verdera Oy disclaims any liability for loss or damage resulting from the use of these data, information or suggestions. CLP Regulation (EC) 1272/2008, Regulation (EU) 453/2010 and Directive 1999/45/EC.

List of relevant H- and P- statements or/and safety and other precautionary statements

H- and P-statements related to CLP Regulation (EC) 1272/2008 not in use in Canada.

PMRA approved precautionary statements:

Potential Sensitizer.
Keep out of reach of children.
Keep away from food, drink and animal feed.
May cause sensitization by inhalation and skin contact.
Avoid breathing dust or spray mist.
Avoid contact with skin and eyes.

Wear a long sleeved shirt, long pants, shoes plus socks, chemical resistant gloves, eye goggles and a dust mask (minimum standard MSHA/NIOSH TC-21C) when handling this product and during all clean up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Toxic to aquatic organisms.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

If swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

If on Skin or Clothing: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes.

Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Training advice for workers

To avoid risks to human health and the environment, comply with the instructions for use.